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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/614,857 | 07/09/2003 | Akio Miyori | 0229-0761P | 8155 |

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

| EXAMINER | |
|---|---|
| PIERRE LOUIS, ANDRE | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2123 | |

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/614,857 | MIYORI ET AL. | |
| | Examiner | Art Unit | |
| | Andre Pierre-Louis | 2123 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. The amendment filed on 7/03/2006 has been received and fully considered.

2. Claim 8 is added and now claims 1-8 are presented for examination.

3. Regarding the objection to the specification, the examiner withdraws the objection, in view of the applicant's argument.

4. As per the claims' objection, the examiner withdraws the objection, in view of the amendment.

5. With regards to the abstract's objection, the examiner withdraws the objection, in view of the amendment.

### *Priority*

6. Acknowledgment is made of applicant's claim for foreign priority; it is noted, however, that applicant has not filed a certified copy of the foreign application as required by 35 U.S.C. 119(b).

### *Response to Arguments*

7. Applicant's arguments filed 07/03/2006 have been fully considered but they are not persuasive.

7.1 Applicants argue that Seta does not disclose simulating the snow model, computing the deformation, and outputting of data, the examiner respectfully disagrees and relies on fig.1-3, 8-11,27,35, and 46 along with their description, in addition to the already cited portion of the reference. The examiner asserts that Seta models the tire model and road surface to includes a snow model and perform evaluation and/or

simulation of the models to estimate performance and computes deformation of the models (see the reference figures & their description).

7.2 While the applicant believes the independent claims along with their dependencies should be found allowable, the examiner respectfully disagrees and asserts that the combined references cited teaches the entire claimed invention. Found the applicant's arguments non-persuasive, the examiner maintains the rejection of the independent claims along with their dependencies.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.0 Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Seta (U.S. Patent No. 6,430,993).

8.1 In considering the independent claims 1 and 8, Seta teaches the functional equivalence of a method of simulating a tire on snow, in particular the steps of making a model of the tire made up of numerically analyzable elements *(see abstract, also fig.2 (100,102); col.3 line 54-col.5 line 65);* making a model of the snow made up of numerically analyzable elements being capable of presenting its volume change and mass density change caused by compression and being capable of maintaining a

volume change and mass density change after the compression is removed *(see abstract, also fig.2; col.1 line 6-col.6 line 63)*; setting of conditions for rolling the tire model and contacting the tire model with the snow model *(see abstract, also fig.2; col.1 line 6-col.6 line 63)*; computing of deformation of the tire model *(see abstract, also fig.2(110); col.1 line 6-col.6 line 63)*; and computing of deformation of the snow model *(fig.1-3,8-11,27, and 35 & their description)*; repeatedly carrying out steps c-e at minute time intervals to obtain at least one of the following data: a force produced on the tire model in the back and forth direction (*fig.18)*; and mass density, pressure, stress, speed and contact force of the snow model *(see fig.1-3,8-11,27, and 35 & their description, also col.1 line 6-col.6 line 63)*, and outputting said at least one of the data *(see abstract, also col.1 line 6-col.6 line 63)*.

8.2 With regards to claim 2, Seta teaches the steps of defining the tire model as being rotatable around its rotational axis and being movable only in the vertical direction in relation to a coordinate system (*fig.10-11*, 35-*39, col.41 line 64-col.47 line 35, col.3 line 54-col.8 line 63, also col.31 line 9-col.34 line 16)*; and defining the snow model as being immovable in relation to said coordinate system (*fig.10-11, 35-39, col.41 line 64-col.47 line 35, col.3 line 54-col.8 line 63, also col.31 line 9-col.34 line 16);* and said conditions including a torque applied to the tire (*fig.10-18, col.1 line 6-col.6 line 63)*.

8.3 As per claim 3, Seta teaches the steps of defining the snow model as being immovable in relation to a coordinate system (*fig.10-11*, 35-39, *fig.35-39, col.41 line 64-col.47 line 35, col.3 line 54-col.8 line 63, also col.31 line 9-col.34 line 16);* defining the tire model as being rotatable around its rotational axis (*fig.10-11*, 35-39,

*fig.35-39, col.41 line 64-col.47 line 35, col.3 line 54-col.8 line 63, also col.31 line 9-col.34 line 16);* and defining a model of an elastic body of which one end is fixed in relation to the coordinate system and the other end is connected to the rotational axis *(fig.35-39, col.41 line 64-col.47 line 35, col.3 line 54-col.8 line 63, also col.31 line 9-col.34 line 16)*, and said conditions including a torque applied to the rotational axis of the tire (*fig.10-18, col.1 line 6-col.6 line 63)*.

8.4 Regarding claim 4, Seta teaches that the tire model is of a halved tire on one side of the tire equator *(fig.4-5, 17,32-34, col.39 line 23-67), also col.31 line 9-col.34 line 16)*.

8.5 With regards to claim 5, Seta teaches that said outputting includes outputting one of the data by visualizing the distribution thereof in gray scale or changing color *(fig.2-3, also see abstract, col.1 line 6-col.6 line 63)*.

8.6 As per claim 6, Seta teaches that said outputting includes outputting one of the data relating to the snow model by visualizing the distribution thereof in gray scale or changing color and overlapping a view of the snow model *(fig.2-3,27-34, also see abstract, col.1 line 6-col.6 line 63)*.

8.7 Regarding claim 7, Seta teaches the step of visualizing and outputting specific elements which have data included in a predetermined specific range *(col.19 line 61-col.23 line 61)*.

## ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9.1 Shiraishi et al. (U.S. Patent No. 6,725,168) teaches a vehicle/tire performance simulating method.

9.2 Hedstrom (U.S. Patent No. 6,499,339) teaches a method and an apparatus for measuring the load-bearing capacity of a road surface.

9.3 Carreta (U.S. Patent No. 6,763,288) teaches a method and system for monitoring and/or controlling the behavior of a vehicle by measuring deformation of its tires.

9.4 Tang et al. (U.S. Patent No. 6,192,745) teaches a method and system for simulating vehicle and roadway in interaction.

9.5 Sumiya et al. (U.S. Patent No. 6,263,728) teaches a method of analyzing frictional energy of rolling tire.

9.6 Ishiyama (U.S. Patent No. 6,564,625) teaches a method of designing a tire in which takes into consideration actual condition in the presence of fluid, such as drainage performance, on-snow performance, noise performance, and the like.

10. Claims 1-8 are rejected and **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Pierre-Louis whose telephone number is 571-272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 18, 2006

APL

8/16/06

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100